

IN THE CLAIMS:

Please cancel Claims 15 and 16 without prejudice or disclaimer of subject matter.

Please amend Claims 1, 8, 12 and 14 and add Claim 17, as follows. For the Examiner's convenience, all claims currently pending in this application have been reproduced below:

1. (Currently Amended) An exposure apparatus, comprising:
 - a light source;
 - an illumination optical system illuminating an original on which a pattern is formed by the exposure light emitted from said light source;
 - a projection optical system projecting the pattern to a photosensitive object;
 - a first photodetector, disposed in a portion for receiving light from an optical path between said light source and a portion where the original is placed, said first photodetector being used for monitoring an emission light amount from said light source;
 - and
 - a processor system changing a proportional coefficient of a target value of an output of said first photodetector and a voltage applied to said light source, in accordance with a change of transmittance ~~of at least an optical element~~ in an optical path between from said light source ~~and to~~ said first photodetector of at least an optical element.
2. (Previously Amended) An exposure apparatus according to Claim 1, wherein said processing system further performs sensitivity correction of said first photodetector relative to an illuminance on a plane corresponding to a surface of the

photosensitive object on the basis of the change of transmittance of at least an optical element between a position where light divided to said first photodetector and a photosensitive object.

3. (Original) An exposure apparatus according to Claim 1, further comprising a stage movable in a direction orthogonal to an optical axis of said illumination optical system, on which the original is placed, and a second photodetector disposed near the photosensitive object, wherein said second photodetector detects the exposure light passing through a light transmitting portion of said stage placed at a position different from that of a portion where the pattern is positioned.

4. (Previously Amended) An exposure apparatus according to Claim 1, wherein said processing system changes said proportional coefficient on the basis of at least one of information regarding an illumination extent of said illumination optical system, information regarding transmittance of the original, and a detection result of said first photodetector.

5. (Original) An exposure apparatus according to Claim 1, wherein said light source includes one of a KrF excimer laser, an ArF excimer laser, and an F2 laser.

6. (Previously Amended) An exposure apparatus according to Claim 1, wherein said light source has a pulsed laser, said illumination optical system has an ND filter and masking blades for determining an illumination extent, and said processing

system changes said proportional coefficient on the basis of information regarding output energy per pulse, an oscillation frequency and oscillation duty of said pulsed laser, a voltage applied to said pulsed laser, a transmittance of said ND filter and the original, and the illumination extent formed by said masking blades.

7. (Previously Amended) An apparatus according to Claim 1, further comprising a second photodetector, disposed near the photosensitive object, having a light receiving surface positioned at the same height as a surface of the photosensitive object, wherein said processing system further performs sensitivity corrections of said first photodetector and said second photodetector on the basis of the changes in transmittance of at least an optical element between the position where light divided to said first photodetector and said second photodetector.

8. (Currently Amended) A method for producing devices by use of an exposure apparatus, said method comprising the steps of:

illuminating, with an illumination optical system, an original on which a pattern is formed by exposure light from a light source;

projecting, with a projection optical system, the pattern to a photosensitive object;

receiving light by a first photodetector from an optical path between the light source and a portion where the original is placed;

monitoring, by the first photodetector, an emission light amount from the light source;

changing a proportional coefficient of a target value of an output of said first photodetector and a voltage applied to said light source, in accordance with the change of transmittance ~~of at least an optical element in an optical path between from~~ said light source ~~and to~~ said first photodetector of at least an optical element; and

developing the photosensitive object with a projected pattern, a circuit device being produced from the developed object,

wherein said illuminating step is performed on the basis of the changed proportional coefficient for the first photodetector.

9. (Previously Amended) A method according to claim 8, further comprising correcting the sensitivity of the first photodetector relative to an illuminance on a plane corresponding to a surface of the photosensitive object on the basis of the change of transmittance of at least on optical element between a position where light divided to said first photodetector and a photosensitive device.

10. (Previously Amended) A method according to Claim 8, wherein said proportional coefficient changing step is performed on the basis of at least one of information regarding an illumination extent of the illumination optical system, information regarding transmittance of the original, and a detection result of the first photodetector.

11. (Previously Amended) A method according to Claim 8, wherein said proportional coefficient changing step is performed on the basis of monitoring results of the

change of a ratio of an output of the first photodetector to a voltage applied to the light source.

12. (Currently Amended) A method for exposing an original and for projecting a pattern formed on the original onto a photosensitive object, said method comprising the steps of:

illuminating, with an illumination optical system, the original by exposure light from a light source;

projecting, with a projection optical system, the pattern of the original onto the photosensitive object;

receiving light by a first photodetector from an optical path between the light source and a portion where the original is placed;

monitoring, by the first photodetector, an emission light amount from the light source;

changing a proportional coefficient of a target value of an output of said first photodetector and a voltage applied to the light source, in accordance with the change of transmittance ~~of at least an optical element in an optical path between~~ from said light source ~~and to~~ to said first photodetector of at least an optical element;

wherein said illumination step is performed by using the changed proportional coefficient for the first photodetector.

13. (Original) A method according to Claim 12, further comprising correcting the sensitivity of the first photodetector relative to an illuminance on a plane corresponding to a surface of the photosensitive object corresponding to the change of transmittance.

14. (Currently Amended) An exposure apparatus comprising:

- a light source of a pulsed laser;
- an illumination optical system illuminating an original on which a pattern is formed by exposure light emitted from said light source;
- a projection optical system projecting the pattern to a photosensitive object;

and

- a photodetector disposed in a portion for receiving light from an optical path between said light source and a portion where the original is placed, said photodetector being used for monitoring an emission light amount from said light source; and
- a processing system ~~estimating a change in transmittance of at least an optical element disposed between said light source and a portion where the photosensitive object is placed, on the basis of information of the pulse energy of the light source, an oscillation frequency of the light source, and elapse information of the exposure,~~
performing sensitivity correction of said photodetector relative to information of a pulse energy of the light source, an oscillation frequency of the light source, a time of irradiating a pulsed laser light to said illumination optical system in said oscillation frequency, and a time when the pulsed laser light is not irradiated to said illumination optical system and is longer than a pulse period of said oscillation frequency.

Claims 15 and 16 have been cancelled.

17. (New) An exposure apparatus according to Claim 14, wherein said processing system performs sensitivity correction on the basis of at least one of information regarding an illumination extent of said illumination optical system, and information regarding transmittance of the original.